

### **New Jersey Nonfarm Employment Estimates Undergo Annual Benchmark Revisions**

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*The New Jersey Department of Labor and Workforce Development produces a wide range of data and information that can help businesses and policy decision-makers better understand New Jersey's economy. One of the department's most widely used data products is the monthly employment statistics report that depicts the overall health of the state's job markets.*

*Through its Division of Labor Market and Demographic Research, and in cooperation with the United States Bureau of Labor Statistics, the department produces a monthly estimated job count derived from a survey of approximately 6,000 New Jersey employers. These monthly figures are only preliminary estimates and need to be compared with actual counts of employment taken from payroll tax records. However, comparison data is not available on a real-time monthly basis due to differing collection cycles and data processing times. Therefore, in order to ensure the most accurate count of New Jersey workers, comparisons are done on an annual cycle, through a process known as benchmarking. The results of this process produce a more accurate picture of the New Jersey economy than previously released monthly data.*

*This article will summarize employment trends in New Jersey's job market in 2009 and also provide a detailed explanation of the methodology and techniques used in the benchmarking process.*

#### **State of the New Jersey Economy in 2009**

- Revised employment figures for 2009 reveal that the negative effects of the national recession on New Jersey's economy were greater than previous estimates showed.
- Based on newly benchmarked data, New Jersey employers shed 114,100 jobs, over the year, December 2008 to December 2009, a downward revision from the originally estimated loss of 91,000 jobs (seasonally adjusted).
- Thus far, the recession has claimed 228,300 jobs or 5.6 percent of the state's total non-farm employment (December 2007-December 2009).
- Seven out of ten sectors of the New Jersey economy faced job losses over the December 2008 to December 2009 period, except for educational and health services (+9,200 jobs) government (+7,000) and leisure and hospitality (+300).
- The largest losses were recorded in the trade, transportation and utilities (-29,000), professional and business services (-28,700), manufacturing (-28,200), and construction (-23,400) supersectors.
- The drop in the trade, transportation and utilities segment was split between the wholesale (-10,600) and retail (-15,600) sectors, driven by diminishing economic activity and decreased consumer spending.

- The job losses in the professional and business services sector were widespread among its components: professional, technical and scientific services (-9,900), management of companies and enterprises (-4,300), and administrative support and waste management (-14,500).
- The loss in manufacturing continues a long-term downward trend for factory jobholding in New Jersey; this year's loss (-28,200) was the largest since 2002.
- Construction employment was down by 23,400 or 15.2 percent mainly due to weak demand in New Jersey's residential housing and commercial real estate markets.
- Other sectors with substantial job loss included financial activities (-14,500), which was reflective of the continuing crises in the banking, mortgage, and housing markets, and information (-5,900).
- The employment gain in educational and health services was mainly due to payroll expansion in the health services sector. Jobs in this area have been expanding rapidly over the past several years, partly in response to changing demographics, specifically the aging of New Jersey's population.

## Detailed Analysis of the Benchmark Results

The following analysis focuses on the revisions to employment estimates detailed by industry supersector (before seasonal adjustment factors are implemented). As table 1 shows, the national recession continued to impact the state labor market during 2009. All previously published monthly estimates in 2009 required a downward revision. On a 12-month average, the downward revision was 45,600 jobs.

Total nonfarm employment for the benchmark month (March 2009) was revised down by 46,000 jobs or 1.2 percent. All employment sectors experienced downward revisions in the benchmark employment month, except professional and business services which had an upward revision of 7,700 jobs.

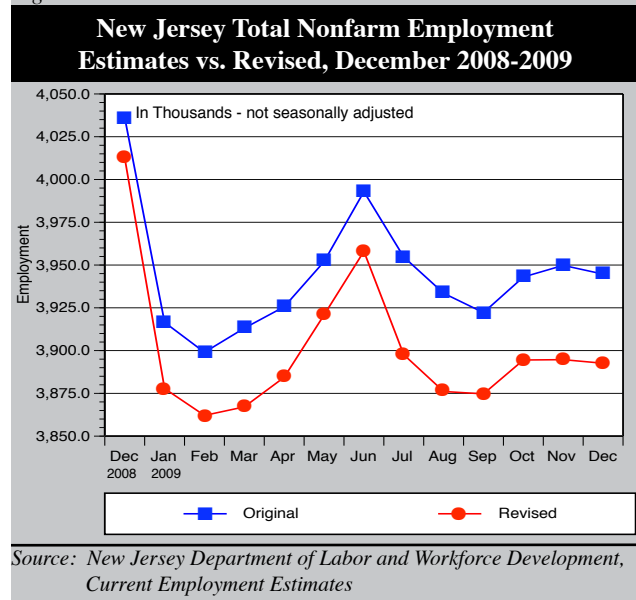
The new benchmark data shows the state's economy experienced notable job loss throughout the year. Consequently, preliminary employment estimates needed to be largely revised downward for each month of 2009. Of all the substantial downward revisions to the original 2009 estimates, the smallest was in May (-31,200 or -0.8%) and the largest was in August (-57,400 or -1.5%).

The original 2009 estimates identified the general employment trend but

Table 1

<b>Historical Revisions, Total Nonfarm Employment: New Jersey, 1999-2009</b>				
(in thousands - not seasonally adjusted)				
Year	March Unrevised Estimate	Benchmark	Difference	Percent Change from Estimate to Benchmark
1999	3,808.3	3,839.0	30.7	0.8
2000	3,874.0	3,942.8	68.8	1.8
2001	3,993.9	3,957.0	-36.9	-0.9
2002	3,977.6	3,968.8	-8.8	-0.2
2003	3,961.8	3,922.2	-39.6	-1.0
2004	3,978.5	3,944.2	-34.3	-0.9
2005	3,999.7	3,975.3	-24.4	-0.6
2006	4,027.5	4,029.8	2.3	0.1
2007	4,046.7	4,020.6	-26.1	-0.6
2008	4,028.2	4,042.7	14.5	0.4
2009	3,913.1	3,867.1	-46.0	-1.2
Source: New Jersey Department of Labor and Workforce Development Division of Labor Market and Demographic Research				

Figure 1



were unable to capture the magnitude of the employment declines. As figure 1 indicates the gap between the two trends (original vs. revised) was substantial. For example, the original 2009 estimates were required to be revised down by 57,100 jobs (-1.4%) in July; 57,400 (-1.5%) in August; 47,500 (-1.2%) in September; 48,500 (-1.2%) in October; 55,100 (-1.4%) in November; and 52,100 (-1.3%) in December. The review of industry sectors revealed that the original 2009 estimates were unsuccessful in determining the scope of job loss for each industry sector.

Examining the benchmark data for trade, transportation and utilities shows that the original estimates successfully identified the actual employment trend but were unable to translate the negative effects of the credit

crisis as well as retrenchment in consumer spending into a magnitude of the sector's employment loss. The revised employment figures show divergence in the March benchmark month that continues each month through December 2009. Of all the downward revisions, April's was considered the most significant — downward revisions of 29,700 (-3.6%); followed by August, 27,500 (-3.3%). On 12-month average, the sector's employment was revised down by 25,000 in 2009.

Professional and business services' preliminary employment trend was on track for several months of 2009. The employment estimates failed to recognize large movements over the month by the industry employment trend. The newly benchmarked data required upward revisions for the first half of 2009. Of all these revisions, February was largest with 11,700 or 2.1 percent; followed by 10,100 or 1.8 percent in April. However, beginning in July the estimates started to break away from the actual employment trend. Consequently, downward revisions

Figure 2

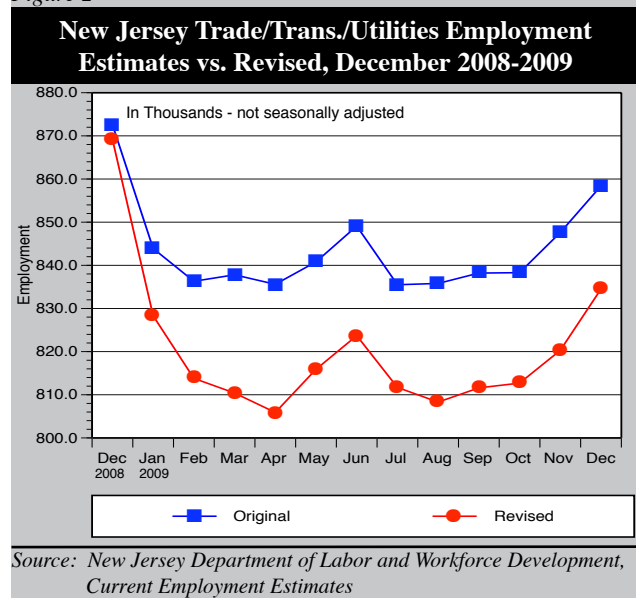
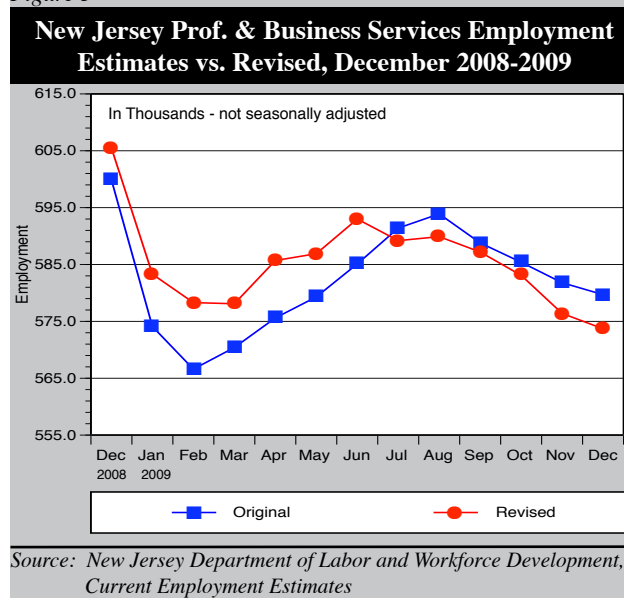
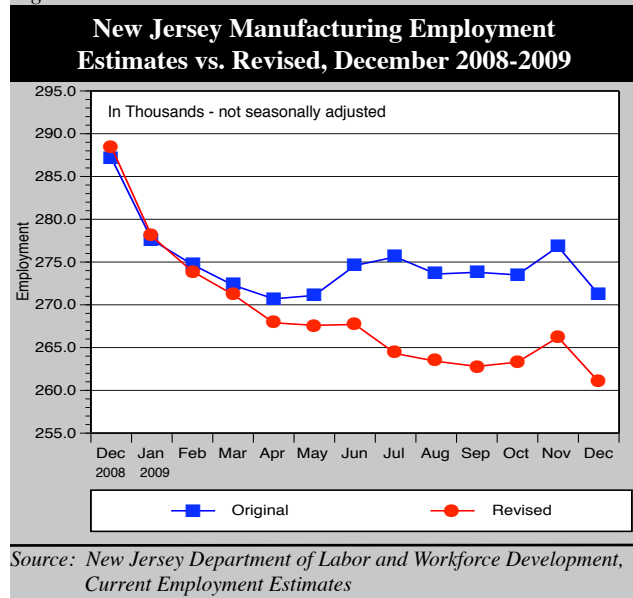


Figure 3



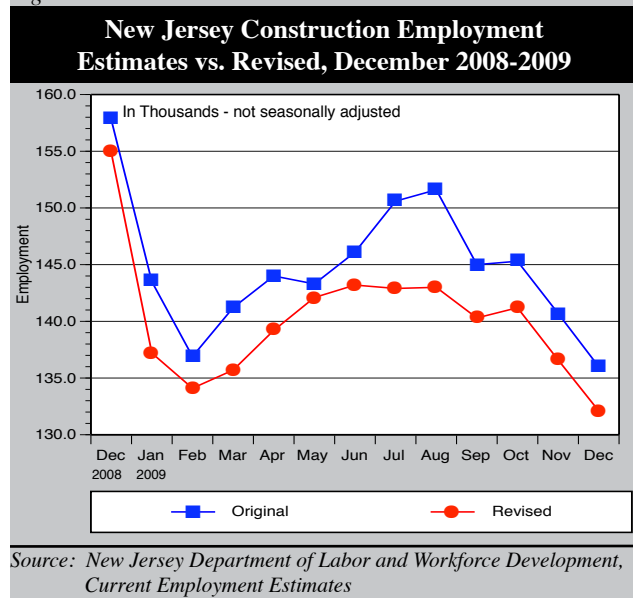
for the second half of 2009 were necessary. The administrative support/waste management/remediation segment accounted for half of the supersector job losses due to steep declines in hiring at temporary employment and staffing agencies. These jobs are typically the most at risk during economic downturns as companies cast off nonessential contract workers as business slows in an effort to help control costs.

Figure 4



The sample-based estimates in the manufacturing sector had a difficult time identifying the industry job movement in 2009. For the first five months, the preliminary employment estimates followed the actual employment trend, but differences began widening. In the over-the-month employment change between May and June 2009, the preliminary estimates reported jobs gained but the actual employment movement was virtually flat. In another instance, the preliminary estimates indicated the sector continued adding jobs in July; however, the new benchmark data revealed a steep drop over the month. The gaps became deeper in the third quarter of the year. Many firms scaled back operations or consolidated facilities in response to sharp decreases in demand for consumption goods both here in this country and overseas.

Figure 5



Construction's preliminary employment figure overestimated the sector's actual employment trend in 2009. The preliminary estimates were able to keep track with the real employment trend but large disparities between the two occurred in July and August as the deep recession decreased demand in both commercial and residential construction, and tighter lending practices dampened the sector's employment growth. Estimates were revised downward by 7,700 or 5.1 percent in July, and 8,600 or 5.7 percent in August.

In educational and health services, the preliminary estimates did not succeed in capturing the impact of the recession on the education services component. The industry accounted for most of the sector's downward

revisions. Declines in incomes and overall economic uncertainty led to decreasing enrollments in private educational institutions reducing industry employment. Beginning in the second half of 2009, estimates closely tracked with the sector's actual employment trend and upward revisions were necessary. During 2009, employment in financial activities started showing signs of stabilization. The benchmark data illustrate the sector experienced the least revision as compared with other sectors.

Figure 6

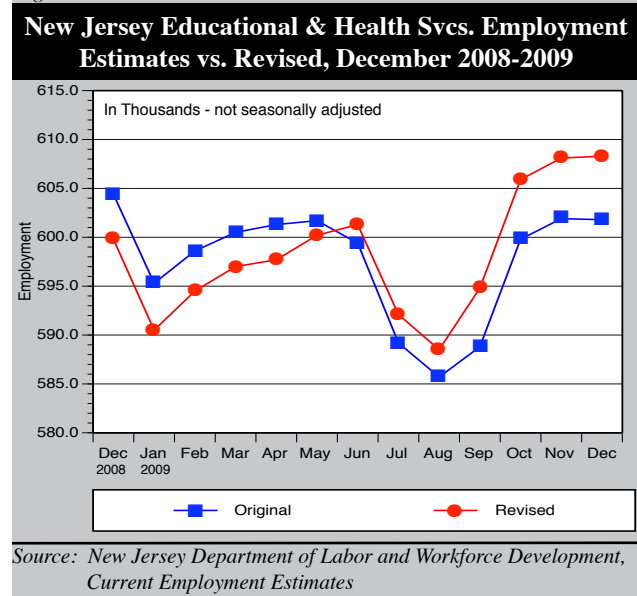
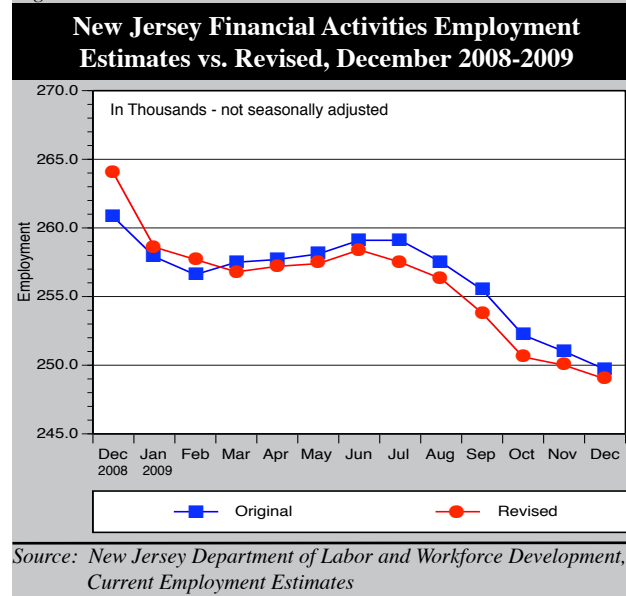


Figure 7



## About the Benchmarking Process

In New Jersey as in all other states, the accuracy of nonagricultural employment estimates is subjected annually to a quality control review as required by the United States Bureau of Labor Statistics. Using March as the benchmark month, estimates are compared with a more accurate and complete count of total employment derived from mandatory administrative reports filed by almost all employers with the New Jersey unemployment insurance (UI) program. It is from this more accurate administrative information that new benchmarks, or universe counts, of industry employment are developed.

Sample-generated estimates are reviewed and revised annually because they inevitably differ from the subsequent universe employment count. Differences may occur for several reasons. Firms participating in the sample may have had different employment characteristics than those not participating. For example, employment in non-sample firms may be expanding or contracting at a faster rate than employment in sample firms. Also, due to the voluntary aspect of employer participation in the sample, there may be changes in the number of firms reporting in a particular industrial classification each month, and delinquency of this nature by reporters in the sample may cause nonrepresentative estimates.

The estimates may also be affected by changes in the industrial classification of individual establishments. These changes are normally made to the original estimates once a year during the annual benchmark revision process and capture shifts that have occurred in the primary economic activity of a company.

The benchmark for all industry categories is based primarily upon tabulations of data on employment and wages received from New Jersey Unemployment Insurance (UI) program employer reports. Employment as tallied from UI reports accounted for 97.0 percent of the employment base for the 2009 benchmark. The totals are further supplemented by counts of employment populations not covered by UI. Noncovered employment is found in various establishments such as religious institutions, insurance agencies, private elementary and second-

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ary schools, private and public institutions of higher education, hospitals, social service agencies and railroads. Since information regarding noncovered wage and salary employment is not available through the UI program, the data are extracted from other data sources.

After the benchmark for an industry has been established, the sample-based (original) estimates are compared with the benchmark and adjusted as needed. Most employment series are revised by the direct substitution of monthly UI covered employment data supplemented by adjustments which include non-covered, undistributed and non-classified employment. Sometimes, all or a portion of a revised estimate series may also include adjustment by a statistical wedge. A wedge is a set of cumulative monthly adjustments that tapers out the difference between the new March benchmark and original estimate. This year revisions to the sample-based not seasonally adjusted estimates were made back to 2008 at the total nonfarm level.

For further information on the analysis of the benchmarking results and process, contact Dung Nguyen by e-mail at [dung.nguyen@dol.state.nj.us](mailto:dung.nguyen@dol.state.nj.us) or by phone at (609)984-0103.